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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,268	08/14/2006	Ines Pietsch	294539US0PCT	6047
22850	7590	12/11/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			KWAK, JAE J	
			ART UNIT	PAPER NUMBER
			1796	
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			12/11/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/589,268	<b>Applicant(s)</b> PIETSCH ET AL.	
	<b>Examiner</b> JAE KWAK	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 11-13 and 15-20 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 is directed to a polymer powder while claim 1, from which it depends is directed to a process of preparing. Therefore, limitations to a polymer powder do not further limit a process of preparing. Likewise, claim 12 is directed to a method of using and does not further limit the polymer powder of claim 11, from which it depends. Also, claim 13 is directed to an aqueous polymer dispersion and does not further limit the polymer powder of claim 11, from which it depends.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pabst et al. (WO 03/016578. For convenience, the English language equivalent US 6,881,356, will be referred to below.) in view of Weitzel et al. (US 6,127,483).

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Regarding claims 1, 11, 13: Pabst et al. teaches a process for preparing a novel solution (spray assistant A) of sulfone-containing materials comprising a dihydroxydiphenyl sulfone, 0.5 to 5 moles of an aliphatic aldehyde of 1 to 6 carbon atoms per mole and 0.4 to 2 moles of sodium sulfite per mole of dihydroxydiphenyl sulfone [DHDPS] at from 90° to 180° (See the abstract component B). Pabst et al. teaches a spray drying process to precipitate sulfone-containing material which can be redissolved in water before use (Col. 4 lines 60-65)

Pabst et al. is silent on a process preparing an aqueous polymer dispersion to prepare the polymer powder. However, Weitzel et al. teaches a dispersion-powder composition comprising polymers and dispersant that redispersible in water (abstract). Pabst et al. and Weitzel et al. are analogous art because they are both reasonably pertinent to the particular problem which the applicant was concerned, namely a process of preparing redispersible composition in aqueous solutions using spray drying dispersions. At the time of invention a person having ordinary skill in art would have found it obvious to combine the dispersion polymer powder taught by Weitzel et al. with the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to improve polymers that can be easily redisperse in water and in a spray drying application used in building industry.

Regarding claims 2-3: Pabst et al. teaches the isomer of dihydroxydiphenyl sulfones including the 4,4'-dihydroxydiphenyl sulfone compound (Col. 3, lines 40-45) along with an aqueous solution comprising dihydroxy-diphenyl sulfone is under pressure (Col. 4, line 26).

Regarding claim 4: Pabst et al. teaches that the pH of 3.5-5.5 which is less than seven of aqueous solution can be achieved by adding an alkali metal hydroxide or ammonia (Col. 4 lines 9-14).

Regarding claims 5-6: Pabst et al. teaches a process of mixing 30-70 Wt% of component A (Col. 4 line 50) with component B (Col. 4 line 53) which forms a mixture comprising component A/other spray assistant B and component B/spray assistant A. Pabst et al. teaches the mixture contains the 70 to 30% by weight of component B/spray assistant A, which overlaps weight amount of spray assistant A.

Regarding claims 7, 20: Pabst et al. is silent on amount of "spray assistant A" per weight of polymer or amount polymer. However, Weitzel et al. teaches amounts of 0.1 to 30% by weight of dispersant used in the spray drying dispersion (Col. 4 lines 16-20, Col. 1 line 8) with polymer powder. At the time of invention a person having ordinary skill in art would have been found it obvious to combine amount of the dispersant taught by Weitzel et al. into the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to improve polymers that can be easily redisperse in water and in a spray drying application used in building industry.

Regarding claim 8: Pabst et al. is silent on the amount of the polymer to prepare the polymer powder. However, Weitzel et al. teaches a dispersion-powder composition comprising polymers and dispersant that redispersible in water (abstract). However, Weitzel et al. teaches amount of polymer such as 50-90 Wt % of vinyl ester-ethylene copolymer/vinyl acetate (Col. 1 lines 40-50, Col. 2 lines 30-59, Col. 4 line 12).

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Therefore the Wt% of water soluble overlaps instant claimed Wt%. At the time of invention a person having ordinary skill in art would have been found it obvious to combine the water soluble copolymer of Weitzel et al. into the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to have improved polymers that can be easily redispersed in water and in a spray drying application used in the building industry.

Regarding claim 9: With respect to glass transition temperature of the polymer, Weitzel et al. teaches compositions having above polymers have glass transition temperature between -30 C to 30 C (Col. 3 line 20) which overlaps the instant claimed glass transition temperature ranges. At the time of invention a person having ordinary skill in art would have been found it obvious to combine the water soluble copolymer into the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to have polymers that can be easily redispersed in water and in a spray drying application used in the building industry.

Regarding claim 10: Pabst et al. is silent on the antiblocking agent. However, Weitzel et al. teaches antiblocking agents such as talc and dolomite (Example 2). At the time of invention a person having ordinary skill in art would have been found it obvious to combine the antiblocking agents with the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to improve polymers by preventing coagulation during redispersion in water and in a spray drying application used in the building industry.

Regarding claim 12: Pabst et al. is silent on the process of using polymer powder. However, Weitzel et al. teaches a dispersion-powder composition comprising polymers and dispersant in the coating compositions (Col. 1 line 12). At the time of invention a person having ordinary skill in art would have been found it obvious to use the polymer powder to redissolved in water before use as coating compositions.

Regarding claim 17: Pabst et al. is silent on amount of "spray assistant A" per weight of polymer or amount polymer. However, Weitzel et al. teaches amounts of 0.1 to 30% by weight of dispersant used in the spray drying dispersion (Col. 4 line 16, Col. 1 line 8) with polymer powder. At the time of invention a person having ordinary skill in art would have been found it obvious to combine amount of the dispersant taught by Weitzel et al. into the process of preparing spray drying solutions of the Pabst et al. and would have motivated to do so for such desirable properties to improve polymers that can be easily redisperse in water and in a spray drying application used in the building industry.

Claims 15-16, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pabst et al. and Weitzel et al. as applied to claims 1 and 11 above, and further in view of Sandor et al. (US Patent 6,469,135)

Regarding claims 15-16, 18-19: Pabst et al. and Weitzel teaches the basic claimed process as set forth above paragraph 5. Not taught is size of polymer particles used in spraying dry process. However, Sandor et al. teaches a process of preparing polymer powder (abstract) with dispersed polymer particle having a less than 100nm of

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weight average diameter (Col. 7 line 7) which reads on the newly added instant claims. Pabst et al. and Sandor et al. are analogous art because they are both reasonably pertinent to the particular problem which the applicant was concerned, namely a process of preparing redispersible composition in aqueous solutions using spray drying dispersions. At the time of invention a person having ordinary skill in art would have found it obvious to combine the polymer powder size into the process of spraying the polymer powder taught by Pabst et al. and Weitzel et al. and would have motivated to do so for such desirable properties to improve polymers that can be easily redisperse in water and in a spray drying application used in the building industry.

### ***Response to Amendment***

Applicant's arguments, see Request for Reconsideration, filed July 29<sup>th</sup> 2009, with respect to the rejection(s) of claim(s) 1-13, and 15-20 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Pabst et al. (WO03-016578). Arguments still pertaining to the above rejection are addressed below.

A) Applicant's argument that in regards to Pabst et al. composition is not described as suitable for a spray drying material is not persuasive because Pabst et al. teaches that it is possible to isolate the sulfone-containing tanning material by a process of spray drying which can redissolved in water before use (Col. 4 lines 60-68).



***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAE KWAK whose telephone number is (571)270-7339. The examiner can normally be reached on Monday to Friday 8:30 A.M. EST 5:30 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

J.K.